

## REMARKS

Claims 17 and 18 were objected to because the claims recite “the at least a second semiconductor device.” This phrase refers to the “at least a second semiconductor device” limitation in Claim 16, from which Claims 17 and 18 depend. This recitation in Claim 16 provides antecedent basis for the recitations in Claims 17 and 18. Accordingly, applicants submit that Claims 17 and 18 are clear and respectfully request withdrawal of the objection.

Claims 9 and 10 stand rejected under 35 U.S.C. § 112 as indefinite. Applicants respectfully submit that the claims are definite. There is no ambiguity on the face of the claims, and the mere fact that the specification refers to the substrate as comprising 6H or 4H silicon does not render the claims indefinite. Claims 9 and 10 are part of the original application and as such are a part of the written description and are self-supporting. Furthermore, the specification specifically provides examples in which the substrate and the semi-insulating layer are formed from the same material (although the claims are not limited to these embodiments). “The SiC semi-insulator of this embodiment is of the same material as the substrate and any overlying conducting epitaxial layers that may be grown on the Type II semi-insulator.” Page 10, lines 20-23. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 1-19 stand rejected as anticipated by or obvious over U.S. Patent No. 6,310,385 (Ajit) either alone or in combination with another reference. This rejection is traversed with respect to the claims as amended for the reasons set forth below.

Claim 1 recites “a first semiconductor device formed on the semi-insulating carbide layer, the first semiconductor device having an active area comprising a high bandgap material.” Claim 11, which depends from Claim 1, further specifies that the active area of Claim 1 comprises silicon carbide. Neither of these features is disclosed or suggested by Ajit.

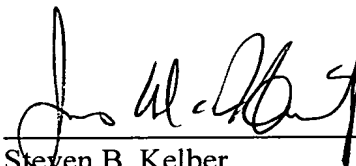
Ajit discloses semiconductor devices with active areas formed from low bandgap materials. For example, col. 1, lines 39-42 of Ajit state that “the present invention overcomes the problems associated with the prior art by providing an integrated circuit in which a relatively low band gap material is used as a semiconductor device layer . . .” See also Fig. 1 of Ajit (including the legend “low band-gap semiconductor”). Thus, Ajit fails to disclose or suggest a semiconductor with an active area formed from a high bandgap material as recited by Claim 1.

Furthermore, Ajit fails to disclose or suggest the use of silicon carbide in the active area of a semiconductor device. The only materials disclosed or suggested for this purpose by Ajit are silicon or germanium. E.g., col. 2, lines 45-56; col. 3, lines 25-27. Furthermore, Ajit’s device relies on a difference in materials used for the semi-insulating and semiconducting areas. “Electrical isolation is provided by the heterojunction between the high band-gap and low band-gap semiconductor materials.” Col. 1, lines 65-67. Accordingly, Ajit teaches away from using the same material, e.g., silicon carbide, for both the active area of the semiconductor device and the semi-insulating area. For the foregoing reasons, withdrawal of the rejection is respectfully requested.

In view of the foregoing remarks, all claims are believed to be in condition for immediate allowance. Allowance of the application is respectfully solicited.

Respectfully submitted,

PIPER RUDNICK LLP

A handwritten signature in black ink, appearing to read "S. Kelber", is written over a horizontal line.

Steven B. Kelber  
Registration No. 30,073  
Attorney of Record

1200 Nineteenth Street, N.W.  
Washington, D.C. 20036-2412  
Telephone No. (202) 861-3900  
Facsimile No. (202) 223-2085

James M. Heintz  
Registration No. 41,828